

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P241995

Luminaire Tested: **PRS420D010-S4M12-41SWWC-3000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P241995
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-61)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PRS420D010-S4M12-41SWWC-3000K
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" WALL WASH DISTRIBUTION, WW TRIM SPECULAR
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1242.7 lumens
Efficiency: N/A
Efficacy: 62.1 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 0.9 / 0.99
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

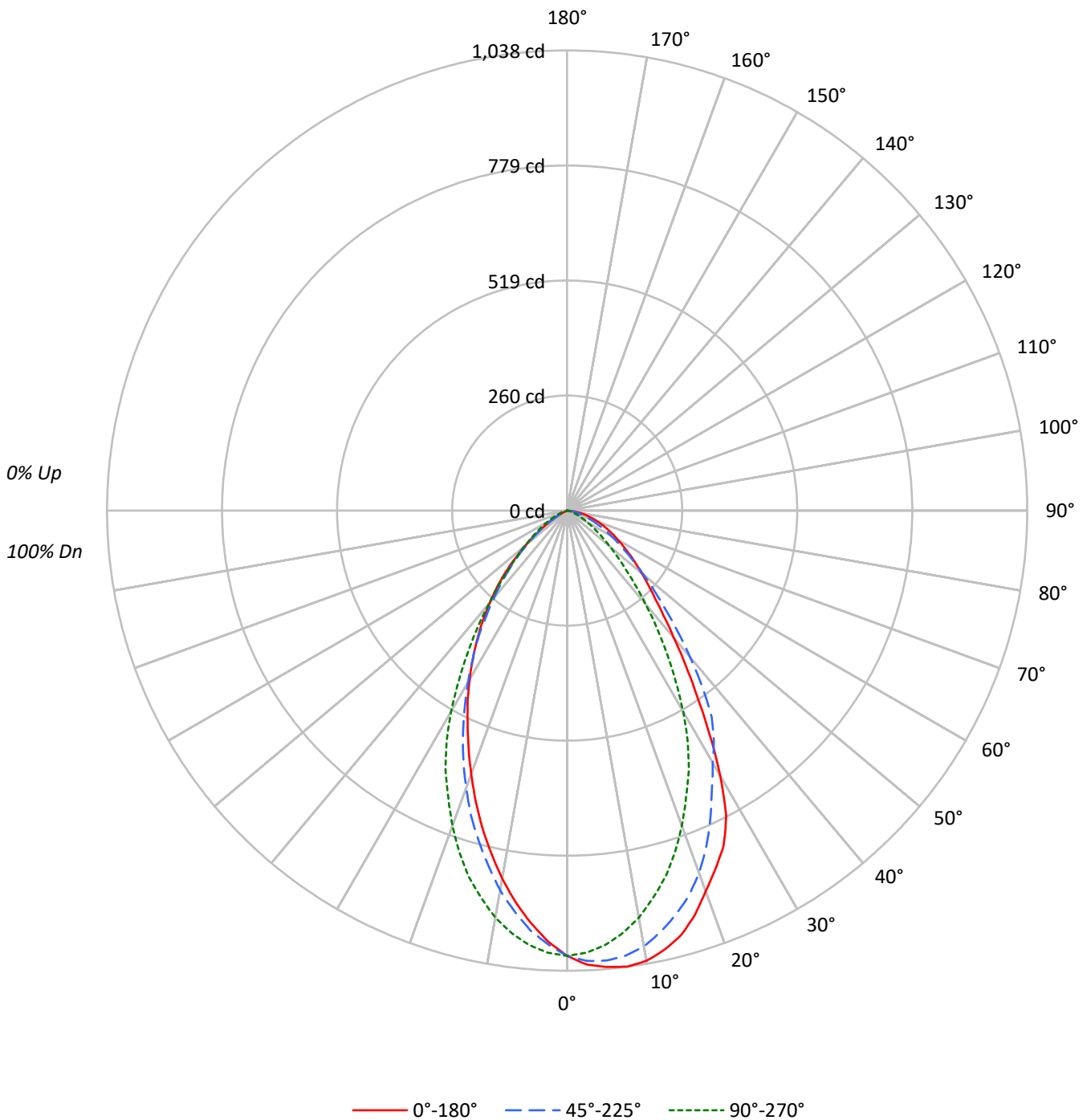
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P241995

CATALOG NUMBER: PRS420D010-S4M12-41SWWC-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P241995

CATALOG NUMBER: PRS420D010-S4M12-41SWWC-3000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	109	106	103	110	107	104	101	102	100	98	99	97	95	95	94	92	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83	81
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55
7	76	65	58	53	74	64	58	53	63	57	52	62	56	52	60	55	52	50
8	72	60	53	49	70	60	53	48	59	53	48	58	52	48	56	51	48	46
9	68	56	50	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	76880	76880	76880
5°	79402	75591	71780
10°	80157	72447	65537
15°	78610	67801	58632
20°	74410	61613	51513
25°	70521	54804	44855
30°	61012	46216	38907
35°	47702	36499	33022
40°	37380	27468	27048
45°	30429	20134	21249
50°	26091	14766	14766
55°	22887	11036	8821
60°	20253	7915	4118
65°	18347	5615	743
70°	16651	3693	0
75°	14669	2455	0
80°	11857	926	0
85°	7289	0	0



TEST NUMBER: P241995

CATALOG NUMBER: PRS420D010-S4M12-41SWWC-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.4	7.4
10°-20°	240.1	19.3
20°-30°	303.0	24.4
30°-40°	268.6	21.6
40°-50°	178.2	14.3
50°-60°	97.0	7.8
60°-70°	43.6	3.5
70°-80°	16.9	1.4
80°-90°	2.8	0.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	635.5	51.1
0°-40°	904.1	72.8
0°-60°	1179.4	94.9
0°-90°	1242.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1242.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1004	1004	1004	1004	1004	
5°	1033	1019	984	951	934	99
15°	992	944	856	771	740	277
25°	835	765	649	556	531	378
35°	510	568	391	349	353	322
45°	281	312	186	180	196	221
55°	172	161	83	64	66	155
65°	101	78	31	2	4	101
75°	50	31	8	0	0	53
85°	8	4	0	0	0	11
90°	0	0	0	0	0	



TEST NUMBER: P241995

CATALOG NUMBER: PRS420D010-S4M12-41SWWC-3000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4
2.5°	1025.1	1023.0	1023.0	1023.0	1021.0	1021.0	1021.0	1021.0	1018.9	1016.8	1016.8
5°	1033.4	1035.4	1033.4	1031.3	1031.3	1031.3	1029.2	1027.2	1025.1	1023.0	1018.9
7.5°	1037.5	1035.4	1035.4	1033.4	1031.3	1029.2	1027.2	1025.1	1021.0	1016.8	1012.7
10°	1031.3	1029.2	1027.2	1027.2	1021.0	1021.0	1018.9	1014.8	1008.6	1004.4	998.2
12.5°	1014.8	1014.8	1012.7	1010.6	1004.4	1004.4	1000.3	996.2	990.0	981.7	973.4
15°	992.0	992.0	987.9	985.8	981.7	979.6	975.5	969.3	963.1	954.8	944.5
17.5°	956.9	956.9	954.8	950.7	948.6	946.6	940.4	936.2	928.0	919.7	911.4
20°	913.5	909.4	909.4	907.3	903.2	901.1	899.0	892.8	886.6	878.4	870.1
22.5°	874.2	872.2	866.0	861.8	855.6	851.5	849.4	841.2	837.0	830.8	820.5
25°	835.0	830.8	828.8	822.6	814.3	812.2	806.0	793.6	785.4	775.0	764.7
27.5°	777.1	777.1	779.2	777.1	768.8	766.8	762.6	752.3	735.8	719.2	706.8
30°	690.3	688.2	690.3	694.4	700.6	702.7	706.8	704.8	692.3	673.7	657.2
32.5°	597.3	597.3	605.5	611.7	617.9	620.0	624.1	634.5	634.5	628.3	615.9
35°	510.5	514.6	520.8	527.0	535.3	537.3	547.7	549.7	562.1	570.4	568.3
37.5°	438.1	442.3	444.3	450.5	458.8	460.9	465.0	479.5	493.9	504.3	500.1
40°	374.1	374.1	380.3	386.5	394.7	396.8	403.0	411.3	427.8	431.9	431.9
42.5°	322.4	324.5	326.5	330.7	336.9	341.0	345.1	357.5	365.8	372.0	367.9
45°	281.1	283.1	285.2	289.3	293.5	295.5	299.7	307.9	314.1	314.1	312.1
47.5°	248.0	248.0	250.1	252.1	256.3	258.3	262.5	266.6	268.7	266.6	264.5
50°	219.1	221.1	221.1	223.2	225.3	229.4	231.5	231.5	231.5	229.4	225.3
52.5°	194.3	194.3	196.3	196.3	200.5	202.5	202.5	202.5	200.5	196.3	190.1
55°	171.5	171.5	171.5	173.6	177.7	177.7	177.7	175.7	173.6	167.4	161.2
57.5°	150.9	152.9	152.9	152.9	155.0	155.0	155.0	152.9	148.8	142.6	136.4
60°	132.3	134.3	134.3	134.3	136.4	136.4	134.3	132.3	128.1	119.9	115.7
62.5°	117.8	117.8	117.8	117.8	117.8	117.8	115.7	111.6	107.5	101.3	97.1
65°	101.3	101.3	101.3	103.3	101.3	99.2	99.2	95.1	90.9	84.7	78.5
67.5°	86.8	86.8	86.8	86.8	84.7	84.7	82.7	78.5	74.4	70.3	64.1
70°	74.4	74.4	74.4	72.3	70.3	70.3	68.2	64.1	59.9	55.8	51.7
72.5°	62.0	62.0	62.0	59.9	57.9	55.8	55.8	51.7	47.5	43.4	41.3
75°	49.6	49.6	49.6	47.5	45.5	43.4	43.4	39.3	37.2	35.1	31.0
77.5°	39.3	39.3	37.2	35.1	35.1	33.1	33.1	31.0	28.9	24.8	22.7
80°	26.9	26.9	26.9	26.9	24.8	22.7	22.7	20.7	18.6	16.5	14.5
82.5°	18.6	18.6	16.5	16.5	14.5	14.5	14.5	12.4	12.4	10.3	8.3
85°	8.3	8.3	8.3	8.3	6.2	6.2	6.2	6.2	6.2	4.1	4.1
87.5°	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	2.1	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P241995

CATALOG NUMBER: PRS420D010-S4M12-41SWWC-3000K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4
2.5°	1014.8	1012.7	1012.7	1008.6	1008.6	1006.5	1004.4	1002.4	1000.3	998.2	996.2
5°	1016.8	1012.7	1008.6	1004.4	1004.4	1000.3	996.2	992.0	990.0	983.8	979.6
7.5°	1008.6	1002.4	998.2	992.0	990.0	985.8	979.6	973.4	967.2	961.0	954.8
10°	992.0	983.8	977.6	971.4	965.2	963.1	954.8	948.6	938.3	932.1	925.9
12.5°	967.2	959.0	950.7	940.4	938.3	934.2	923.8	913.5	905.2	894.9	886.6
15°	936.2	928.0	915.6	907.3	901.1	894.9	886.6	876.3	863.9	855.6	845.3
17.5°	901.1	888.7	876.3	866.0	857.7	853.6	839.1	826.7	818.4	808.1	797.8
20°	859.8	845.3	830.8	816.4	810.2	801.9	789.5	777.1	764.7	756.4	742.0
22.5°	810.2	795.7	781.2	764.7	760.6	752.3	737.8	725.4	715.1	700.6	688.2
25°	754.4	742.0	731.6	717.2	708.9	700.6	688.2	673.7	659.3	648.9	634.5
27.5°	698.5	690.3	679.9	665.5	657.2	648.9	632.4	617.9	599.3	589.0	572.5
30°	644.8	638.6	624.1	609.7	595.2	589.0	566.3	549.7	533.2	522.9	510.5
32.5°	597.3	578.7	560.1	539.4	531.1	522.9	500.1	483.6	469.1	454.7	442.3
35°	543.5	514.6	493.9	475.3	465.0	456.7	438.1	419.5	407.1	390.6	382.3
37.5°	485.7	460.9	436.1	413.3	405.1	392.7	378.2	357.5	345.1	330.7	318.3
40°	423.7	407.1	380.3	357.5	347.2	338.9	320.3	303.8	287.3	274.9	266.6
42.5°	359.6	349.3	328.6	305.9	295.5	287.3	270.7	252.1	237.7	227.3	217.0
45°	305.9	297.6	281.1	260.4	248.0	239.7	223.2	206.7	194.3	186.0	179.8
47.5°	258.3	250.1	235.6	217.0	206.7	198.4	181.9	167.4	159.1	152.9	148.8
50°	217.0	206.7	194.3	181.9	171.5	163.3	148.8	138.5	130.2	124.0	121.9
52.5°	181.9	173.6	161.2	148.8	140.5	134.3	119.9	111.6	107.5	101.3	97.1
55°	152.9	144.7	134.3	121.9	115.7	109.5	99.2	93.0	86.8	82.7	78.5
57.5°	128.1	119.9	109.5	99.2	93.0	88.9	80.6	74.4	70.3	66.1	62.0
60°	107.5	99.2	90.9	80.6	76.5	72.3	66.1	59.9	55.8	51.7	47.5
62.5°	88.9	80.6	72.3	64.1	62.0	57.9	53.7	47.5	43.4	41.3	37.2
65°	74.4	66.1	57.9	51.7	49.6	45.5	41.3	37.2	33.1	31.0	28.9
67.5°	59.9	51.7	45.5	41.3	39.3	37.2	33.1	28.9	26.9	22.7	20.7
70°	47.5	41.3	35.1	31.0	28.9	26.9	24.8	22.7	18.6	16.5	14.5
72.5°	35.1	31.0	26.9	22.7	22.7	20.7	18.6	16.5	14.5	12.4	10.3
75°	26.9	22.7	20.7	16.5	16.5	14.5	12.4	10.3	8.3	8.3	6.2
77.5°	18.6	16.5	14.5	12.4	10.3	10.3	8.3	6.2	6.2	4.1	4.1
80°	12.4	10.3	8.3	6.2	6.2	6.2	4.1	4.1	4.1	2.1	2.1
82.5°	8.3	6.2	4.1	4.1	4.1	2.1	2.1	2.1	2.1	2.1	0.0
85°	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P241995

CATALOG NUMBER: PRS420D010-S4M12-41SWWC-3000K

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4
2.5°	994.1	992.0	990.0	987.9	987.9	983.8	983.8	981.7	979.6	979.6	977.6
5°	975.5	971.4	967.2	965.2	965.2	959.0	954.8	952.8	950.7	948.6	944.5
7.5°	948.6	944.5	938.3	934.2	932.1	925.9	921.8	915.6	911.4	909.4	903.2
10°	917.6	911.4	901.1	899.0	894.9	888.7	882.5	876.3	870.1	863.9	859.8
12.5°	878.4	868.0	861.8	855.6	851.5	845.3	835.0	826.7	820.5	816.4	810.2
15°	835.0	824.6	816.4	810.2	806.0	797.8	785.4	779.2	770.9	762.6	760.6
17.5°	785.4	773.0	764.7	758.5	752.3	746.1	733.7	727.5	721.3	713.0	706.8
20°	731.6	719.2	711.0	702.7	696.5	690.3	682.0	671.7	665.5	661.3	653.1
22.5°	675.8	665.5	653.1	648.9	644.8	630.3	624.1	615.9	611.7	605.5	601.4
25°	622.1	607.6	599.3	593.1	586.9	576.6	566.3	560.1	555.9	551.8	545.6
27.5°	562.1	553.9	543.5	535.3	533.2	522.9	512.5	506.3	500.1	496.0	489.8
30°	498.1	487.7	479.5	479.5	475.3	467.1	462.9	454.7	446.4	444.3	442.3
32.5°	431.9	425.7	419.5	415.4	415.4	409.2	403.0	400.9	396.8	392.7	392.7
35°	372.0	365.8	359.6	357.5	357.5	353.4	351.3	349.3	349.3	347.2	345.1
37.5°	314.1	305.9	299.7	299.7	299.7	299.7	299.7	299.7	299.7	303.8	301.7
40°	260.4	256.3	254.2	252.1	252.1	252.1	254.2	254.2	256.3	260.4	262.5
42.5°	212.9	212.9	210.8	210.8	208.7	210.8	212.9	214.9	217.0	217.0	221.1
45°	177.7	175.7	173.6	173.6	175.7	173.6	175.7	179.8	179.8	181.9	183.9
47.5°	144.7	142.6	142.6	142.6	142.6	142.6	142.6	144.7	146.7	146.7	148.8
50°	117.8	115.7	113.7	115.7	113.7	113.7	115.7	115.7	115.7	117.8	117.8
52.5°	93.0	90.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9
55°	72.3	70.3	68.2	68.2	66.1	66.1	64.1	64.1	64.1	64.1	64.1
57.5°	57.9	53.7	51.7	49.6	49.6	45.5	43.4	43.4	41.3	41.3	41.3
60°	43.4	41.3	37.2	37.2	35.1	31.0	28.9	24.8	24.8	22.7	22.7
62.5°	33.1	31.0	28.9	26.9	24.8	20.7	16.5	12.4	8.3	8.3	10.3
65°	24.8	22.7	18.6	16.5	16.5	12.4	8.3	4.1	2.1	2.1	4.1
67.5°	18.6	16.5	12.4	10.3	8.3	6.2	2.1	0.0	0.0	0.0	0.0
70°	12.4	10.3	6.2	6.2	4.1	2.1	0.0	0.0	0.0	0.0	0.0
72.5°	8.3	6.2	4.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P241995

CATALOG NUMBER: PRS420D010-S4M12-41SWWC-3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4
2.5°	975.5	975.5	975.5	975.5	973.4	973.4	973.4	973.4
5°	944.5	938.3	938.3	938.3	938.3	938.3	936.2	934.2
7.5°	901.1	897.0	897.0	894.9	894.9	892.8	892.8	890.8
10°	855.6	851.5	851.5	847.4	847.4	845.3	843.2	843.2
12.5°	804.0	799.8	799.8	799.8	795.7	795.7	791.6	791.6
15°	752.3	748.2	746.1	746.1	742.0	742.0	739.9	739.9
17.5°	698.5	696.5	692.3	692.3	690.3	686.1	686.1	686.1
20°	648.9	642.7	640.7	640.7	634.5	634.5	632.4	632.4
22.5°	595.2	591.1	589.0	586.9	582.8	584.9	580.7	580.7
25°	541.5	541.5	537.3	537.3	535.3	533.2	531.1	531.1
27.5°	489.8	489.8	487.7	487.7	485.7	483.6	483.6	485.7
30°	440.2	440.2	440.2	442.3	440.2	438.1	440.2	440.2
32.5°	392.7	392.7	394.7	392.7	394.7	394.7	394.7	394.7
35°	347.2	347.2	349.3	349.3	351.3	351.3	353.4	353.4
37.5°	301.7	305.9	305.9	305.9	310.0	310.0	312.1	312.1
40°	262.5	262.5	264.5	266.6	268.7	270.7	272.8	270.7
42.5°	223.2	223.2	225.3	227.3	229.4	231.5	233.5	233.5
45°	183.9	186.0	188.1	188.1	192.2	194.3	194.3	196.3
47.5°	148.8	152.9	152.9	152.9	155.0	157.1	159.1	157.1
50°	117.8	119.9	119.9	119.9	121.9	124.0	124.0	124.0
52.5°	88.9	90.9	90.9	90.9	93.0	93.0	93.0	95.1
55°	64.1	64.1	64.1	66.1	66.1	66.1	66.1	66.1
57.5°	41.3	41.3	41.3	43.4	45.5	45.5	43.4	43.4
60°	22.7	24.8	26.9	26.9	26.9	28.9	26.9	26.9
62.5°	12.4	14.5	14.5	14.5	14.5	14.5	14.5	14.5
65°	4.1	6.2	6.2	6.2	6.2	6.2	4.1	4.1
67.5°	2.1	2.1	2.1	2.1	2.1	0.0	2.1	2.1
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)